Is *Campylobacter coli* increasing? The importance of accurate speciation by clinical laboratories, FoodNet 1997-2004.

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Background: *Campylobacter jejuni* and *C. coli* are important causes of gastroenteritis in humans. The proportion of *C. coli* isolates received and identified by the National Antimicrobial Resistance Monitoring System (NARMS) laboratory at CDC increased from 0.9% in 1997 to 6.7% in 2004. Because *Campylobacter* species trends may be changing, accurate routine speciation in clinical diagnostic and state public health (SPH) laboratories is essential to determine the incidence of human illness attributed to different *Campylobacter* species.

Methods: The Foodborne Disease Active Surveillance Network (FoodNet) conducted active surveillance for laboratory-confirmed *Campylobacter* infection at >600 clinical diagnostic laboratories in 10 states from 1997 through 2004. *Campylobacter* isolates were speciated in clinical diagnostic or SPH laboratories, and a subset (1 per week) of these isolates was forwarded to the NARMS laboratory for speciation by multiplex PCR and susceptibility testing. FoodNet and NARMS data were linked and speciation in clinical diagnostic and SPH laboratories was evaluated, assuming NARMS speciation is accurate.

Results: Of 37,293 laboratory-confirmed cases of *Campylobacter* ascertained in FoodNet between 1997 and 2004, 2,776 (7.4%) isolates were submitted to NARMS. Information on 1,623 (58%) could be linked between the two datasets. 1,198 (74%) isolates were identical in the submitting laboratory and NARMS; 253 were not speciated prior to submission. Accuracy ranged from 49-97%, in SPH laboratories, compared to 1-35% in clinical diagnostic laboratories. For *C. jejuni* and *C. coli*, respectively, 1142 (82%) of 1395 and 28 (35%) of 79 isolates were identified correctly.

Conclusions: SPH laboratories more accurately speciate *Campylobacter* isolates than clinical diagnostic laboratories. Overall, FoodNet data are reliable for monitoring trends in *C. jejuni* incidence due to high accuracy of speciation in reporting laboratories, but insufficient *C. coli* identification suggests a need for more careful study of *C. coli* and other less common species to monitor the changing epidemiology of *Campylobacter* infection in humans.